ATW-R1820

audio-technica

Dual-channel Frequency-agile UHF Camera-mount Receiver

1800 series wireless systems (dual-channel)

Features

- **Two completely independent receiver channels in a single small unit**
- **Built-in antenna splitter allows single pair of antennas to support both receivers**
- **True Diversity operation for dropout protection and silent switching**
- **996 selectable frequencies in 25 kHz steps in each of two frequency bands**
- **Auto-scan easily selects open channels for each receiver**
- **Tone Lock™ squelch eliminates interference when the transmitters are off**
- **User-friendly operation, with clear natural sound quality**
- **Battery life gauge on the receiver's LCD display**
- **Soft-touch controls for controlling transmitters and receivers**
- **Dual, balanced, adjustable outputs for connection to any mic level inputs**
- **Mix function to provide a mic level output of the two receivers in a single balanced output**
- **Selectable monitor output on the receiver with level control**
- **Receiver operates on AA batteries or external 12V DC supply**
- **Diversity antenna selection and AF peak LED indicators**
- **Compact receiver design ideal for on-camera operation**

Description

The 1800 Series dual-channel, frequency-agile true diversity UHF wireless receiver provides a new standard for audio and RF performance with user-friendly features and flawless operation for camera-mount and special remote applications. The systems provide the audio quality and reliability necessary for the most demanding requirements of today's video and audio systems, with two independent receivers in one small housing.

The ATW-R1820 dual-channel receiver incorporates two completely independent diversity receiver sections along with an antenna distribution system and audio mixer in a single compact package. Each receiver incorporates automatic frequency scanning which eliminates the need for searching for clear channels and automatically selects the most appropriate frequency for each channel's operation. The flexibility in programming both receivers and transmitters allows the user to customize this wireless system to the needs of virtually every application. The internal antenna distribution system allows for a single pair of receiving antennas to feed both receiver sections. True Diversity reception with automatic logic circuitry within each receiver selects the strongest RF signal. The top-mount antennas are removable allowing for different types of antennas and antenna accessories to be used. All components have an easy to read LCD display with back lighting for easy function monitoring. An advanced digital Tone Lock™ squelch system provides enhanced rejection of interference on each of the two receivers. Multi-function LED indicators are provided for diversity, power and peak signal indication. The receiver's compact design and included pouch with stainless steel clip allow for easy attachment to cameras, sound mixer bags or the user's belt. Designed to operate on six standard AA alkaline batteries or external 12V DC, the dual receiver's power switch allows for one receiver section to be switched "off" if not being used to increase battery life. Dual balanced outputs with built-in mixer and output select controls allow the audio from each receiver to be routed to independent outputs or mixed together into a single output for enhanced flexibility in the field. Full headphone confidence monitoring with level control and output selector enables the operator to monitor each receiver's audio. All audio output connections are standard mini-XLRM type connections with TA3F to XLRM-type adapter cables included with the system.

Additionally, the frequency configurations used in the 1800 Series components allows them to be interchangeable with the Audio-Technica 3000 Series components.

Architect's and Engineer's Specifications

The frequency-agile FM dual-channel wireless receiver shall be part of a wireless microphone system consisting of a dual receiver and the appropriate transmitters. Operating in the UHF bands of either 541.500–566.375 MHz or 655.500–680.375 MHz the system shall be capable of operating on any of 996 PLL-synthesized frequencies per band (adjustable in 25 kHz steps).

The all-metal receiver shall be designed for camera mount or portable operation and shall consist of two complete wireless receivers along with an integral antenna distribution system allowing the two receivers to share a single set of antennas. Each of the two receivers shall utilize True Diversity with automatic logic switching to choose the strongest RF signal appearing at either antenna. Each receiver section shall provide an automatic scanning function to select appropriate local usable frequencies for proper wireless system operation. All configuration functions of the receiver shall be controlled by soft-touch controls on the receiver top. A selector switch with lockout/hold function shall be provided for selecting which receiver section is controlled by the soft-touch controls. The receiver shall incorporate a four-position power switch allowing for direct selection of one or two receiver sections on internal batteries or external power. The receiver shall have LED operator indicators on the top panel for diversity operation (A-B) for each receiver section, power/peak indicators for each receiver and a dual channel control LED which shows which receiver is selected to the soft-touch controls for configuration and setup. A backlit LCD display shall be provided on the receiver for showing receiver battery status and selected frequency. A three-position select/hold switch shall be provided to select which receiver appears on the display and is controlled by the soft-touch configuration controls. The switch shall incorporate a hold function to disable the soft-touch controls. An associated LED shall illuminate red when the select/hold switch is in the receiver 1 or 2 position and green when the switch is set in the hold position. The system will be equipped with an advanced Tone Lock™ digital identification system. The receiver design shall provide totally silent audio output mute when the wireless transmitter is turned off or signal is lost to ensure that only the desired wireless microphone transmitter allows the receiver to be un-muted. The receiver shall incorporate a built-in audio mixing and monitoring section. This mixer shall allow for the two receiver sections to be mixed together to a single output connector, operate as independent outputs or select one of the receivers to appear at both audio outputs. Each receiver section shall be provided with an independent level control. Independent audio monitoring shall be provided with monitor level control and monitor select (1-both-2). A headphone connector shall be provided on the bottom of the receiver.

The receiver shall be able to be powered by 6 alkaline AA batteries or 12 volts DC at 500 mA. Antennas shall be located on the top of the receiver

and shall incorporate standard BNC-type connectors to allow them to be detached from the receiver to facilitate the receiver being used with external antennas or antenna distribution devices.

The receiver as supplied shall include a soft pouch with stainless steel clip for attaching it to a camera, sound mixer bag or the operator's belt. The receiver shall have a metal case with removable battery door and be finished in low-reflectance black. All controls and indicators shall be clearly labeled as to their function and operation.

The dual-channel wireless receiver shall be an Audio-Technica ATW-R1820(C/D).

Specifications

Receiving system	Dual independent RF sections, automatic-switching diversity
Image rejection	>50 dB typical
Signal-to-noise ratio	104 dB at 30 kHz deviation (A-weighted), maximum modulation 37 kHz
Total harmonic distortion	≤1% (±10 kHz deviation at 1 kHz)
Sensitivity	25 dBµV, (S/N 60 dB at 5 kHz deviation, (A-weighted)
Audio output	Balanced: 27 mV (at 1 kHz, ±5 kHz deviation)
Output connector	3-pin mini XLR (TA3M-type)
Monitor headphone output (typical)	35 mW max., 32 ohm load (per channel)
Monitor headphone jack	3.5 mm TRS, signals on both Tip and Ring
External power requirements	12V DC nominal, 500 mA
Batteries	Six 1.5V AA alkaline (not included)
Current consumption (battery)	Dual-channel operation: 600 mA typical Single-channel operation: 350 mA typical
Battery life	6 hours typical (dual-channel); 10 hours typical (single-channel), depending on battery type and use pattern
Dimensions	85.0 mm (3.35") W x 133.0 mm (5.24") H x 36.0 mm (1.42") D
Net weight	425 g (15.0 oz) (without batteries)
Accessories included	Two flexible UHF antennas; two 18" TA3F- to XLRM-type output cables; belt pouch

In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

1 Pascal = 10 dynes/cm^2 = 10 microbars = 94 dB SPL

Specifications are subject to change without notice.

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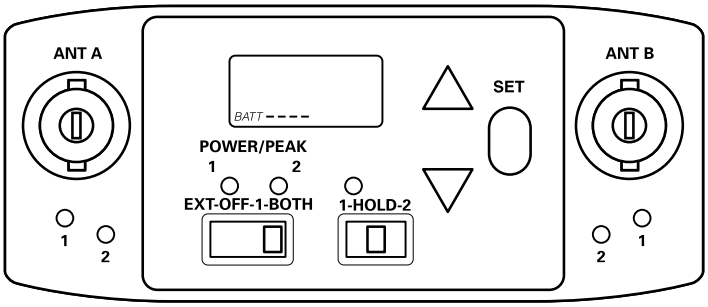

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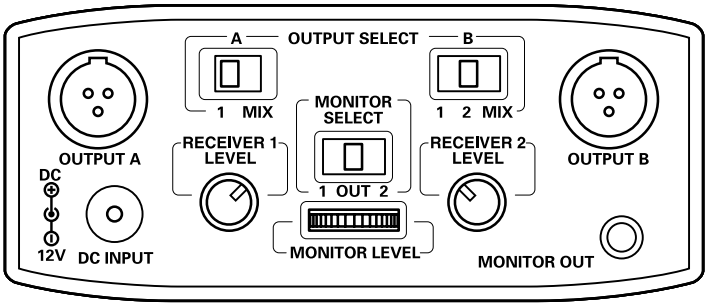

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Audio-Technica U.S., Inc., 1221 Commerce Drive, Stow, Ohio 44224
Audio-Technica Limited, Old Lane, Leeds LS11 8AG England